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APPLICATION NO. FILING DATE		LING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/827,018	10/827,018 04/19/2004		Peter Brian Hrejsa	DDM04-010 .	2512
30137	7590	05/16/2006		EXAMINER	
		ONALD D. MO	JIANG, CHEN WEN		
3060 Bonsai Plano, TX				ART UNIT	PAPER NUMBER
				3744	-
			DATE MAILED: 05/16/2006		

Please find below and/or attached an Office communication concerning this application or proceeding.

## Disposition of Claims  ### Are processed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.  Disposition of Claims  ### Are processed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.  Disposition of Claims  ### Claim (s) 1-18 is/are epicted to by the Examiner.  ### Application Papers  ### Of The above claim(s)		<u>,</u>	E					
Examiner  - The MAILING DATE of this communication appears on the cover sheet with the correspondence address Period for Reply  A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICH-EVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.  - Extension of time may be available under the previouse 43° CFR 1.136(a). In no event, however, may a reply to be threely liked  - If 10 period for reply is specific above, the maximum stationy period wis poper and the application of the reply within the solic period wishing and the application of the reply with the state of the communication (shill be applicated on the providence days)  - Failure to reply within the solic replacement of the mailing date of the communication, event 1 threely filed, riley reduce any sense and patent term adjustment. See 37° CFR 1.704(b).  - Failure to reply within the solic replacement of the mailing date of the communication, event 1 threely filed, riley reduce any sense and patent term adjustment. See 37° CFR 1.704(b).  - Failure to reply within the solic replacement of the mailing date of the communication, event 1 threely filed, riley reduce any sense and patent term adjustment. See 37° CFR 1.704(b).  - Status  - This action is FINAL.  - 2b)□ This action is incondition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.  - Disposition of Claims  - Application of Claims  - Application is papered by the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.  - Disposition of Claims  - Application of Papers  - Prior the drawing is filed on 19 April 2004 is/are: a) accepted or b) objected to by the Examiner.  - Application Papers  - Prior the drawing is filed on 19 April 2004 is/are: a) capacepted or b) objected to by the Examiner.  - Application Papers  - Prior the drawing sheet(s) including the correction is required if the drawing(s) is objected to by the Examiner. Note the atta		Application No.	Applicant(s)					
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WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.  Extensions of time may be savidable under the provides of 30°CFR 1.136(a). In a overant, may a reply be timely filled after SIX (6) MONT IS from the mailing date of this communication is 110 period on the major and will explice SIX (8) MONT IS from the mailing date of this communication. It is to prevent on the provided by the Office Ister than three months after the mailing date of this communication. Any reply received by the Office Ister than three months after the mailing date of this communication, even if limitly filled, may reduce any seared patent term adjustment. Sea 3° CFR 1.704(b).  Status  1) ☑ Responsive to communication(s) filled on 19 April 2004.  2a ☑ This action is FINAL. 2b) ☑ This action is non-final.  3) ☑ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.  Disposition of Claims  4) ☑ Claim(s) 1-18 is/are pending in the application.  4a) Of the above claim(s) is/are withdrawn from consideration.  5) ☑ Claim(s) 1-18 is/are rejected.  7) ☑ Claim(s) is/are allowed.  8) ☑ Claim(s) 1-18 is/are rejected.  7) ☑ Claim(s) is/are objected to.  8) ☑ Claim(s) 1-18 is/are rejected.  7) ☑ The specification is objected to by the Examiner.  Application Papers  9) ☐ The specification is objected to by the Examiner.  Application Papers  9) ☐ The drawing(s) filed on 19 April 2004 is/are: a) ☑ accepted or b) ☐ objected to by the Examiner.  Application Papers  10) ☑ The drawing(s) filed on 19 April 2004 is/are: a) ☑ accepted or b) ☐ objected to Sea 37 CFR 1.121(d).  11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.  Priority under 35 U.S.C. § 119  12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  a) ☐ All b) ☐ Some * O☐ None of:  1. ☐ Certified copies of the priority documents have been re	The MAILING DATE of this communication ap Period for Reply	pears on the cover sheet with	h the correspondence address					
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		4) T Interview Su	ummary (PTO-413)					
-, <u> </u>	2) Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)	)/Mail Date					
3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  Paper No(s)/Mail Date 20040430.  5) Notice of Informal Patent Application (PTO-152)  Other:								

## **DETAILED ACTION**

## Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

- (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.
- 2. Claims 1-18 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Temple et al. (U.S. Patent Number 6,571,566).

In regard to claims 1-15 and 18, Temple et al. disclose a method of determining refrigerant charge level in an air-conditioning system. Referring to Fig.6, the system comprises a compressor 18, a condenser 12, an evaporator, first sensor 90 measuring the temperature within the condenser, second sensor 28 measuring the temperature liquid refrigerant and microcontroller 94. Subcooling is computed by subtracting the liquid refrigerant temperature measured by sensor 28 from the condenser refrigerant temperature measured by sensor 90. The refrigerant charge level determination algorithm determines the refrigerant charge level based on the input from sensors. Temple et al. disclose when the predicted charge level is outside of the desired range, the offset from normal charge level is computed and a charge level adjustment is indicated to the user. A service technician or other user can add or subtract refrigerant charge to bring the charge level within acceptable limits. Therefore, the access fittings are inherent in the charging device to make the adjustment.

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In regard to claims 16 and 17, it is well settled that it is not "invention" to broadly provide a mechanical or automatic means to replace manual activity which has accomplished the same result or vice versa. In re Rundekk, 18 CCPA 1290, 48 F.2d 958, 9 USPQ 220.

## Claim Rejections - 35 USC § 103

- 3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
  - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
- 4. Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Houser Jr. (U.S. Patent Number 4,484,452) in view of Inoue (JP 03195829).

Houser Jr. discloses an air-conditioning charge control system. Referring to Fig.1, the system comprises a compressor 13, a condenser 12, an evaporator 11, fitting 16e, refrigerant vessel 21, controller 28 temperature sensors and pressure sensors. Superheating and subcooling strategies are employed to maintain the charge level in the circuit at optimum performance level. Additional control strategy is employed to shift refrigerant charge into and out of the circuit transient operations. Under the principals of inherency, if a prior art device, in its normal and usual operation, would necessarily perform the method claimed, then the method claimed will be considered to be anticipated by the prior art device. When the prior art device is the same as a device described in the specification for carrying out the claimed method, it can be assumed the device will inherently perform the claimed process. *Ir re King*, 801 F.2d 1324, 231 USPQ 136 (Fed. Cir. 1986). Houser discloses the invention substantially as claimed. However, Houser does not disclose claimed subcooling calculation. Inoue discloses subcooling based on the

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temperature difference between refrigerant temperature measured by sensor 11 from the condenser refrigerant temperature measured by sensor 12 in the same field of endeavor for the purpose of calculating subcooling. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the apparatus of Houser with a subcooling calculation in view of Inoue so as to have alternative subcooling estimate.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chen-Wen Jiang whose telephone number is (571) 272-4809. The examiner can normally be reached on Monday-Thursday from 8:00 to 6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on (571) 272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chen-Wen Jiang Primary Examiner